

National Lung Cancer Conference

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Abstracts of Invited Papers

The epidemiology of lung cancer in the West of Scotland - Pointers for the future?

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The West of Scotland has some of the highest rates of both lung cancer and heart disease recorded. If an epidemiological study of cigarette smoking and lung cancer showed differences from those previously reported it might point to new approaches. A case-control study of 656 males with twice that number of non-smoking related controls has shown a linear increase in the relative risk of heart disease, but little increase in relative risk of lung cancer above an average exposure of 15-24 cigarettes per day (the cell type determined in 90% of cases studied). Despite the reduction in tar content since levels were first measured, medium tar cigarettes still conferred high relative risk if more than 15 cigarettes per day were smoked. None of these findings are explained by smoking practices peculiar to the West of Scotland. Smokers returned to the risk of lung cancer in non-smokers following 20 years of ex-smoking.

A cohort of 15,399 apparently healthy males and females aged 45-64 was examined between 1972 and 1976 by multiphasic screening for cardiovascular risk including measurement of blood pressure, ECG, serum cholesterol and FEV1. These were entered into the cancer registry in 1972. By December, 1986, 2711 of these have died and the cohort mortality for lung cancer shows, for equal amounts smoked, that the West of Scotland population is at more than twice the absolute risk of lung cancer than any of the cohort studies in the literature.

Also an increasing dose response relationship for lung cancer was found comparing controls, passive smokers (relative risk = 2.4), those who smoked and smokers who lived in households where at least one other member of the household smoked.

The rates of lung cancer in those now living in green field sites in the new towns around Glasgow but who lived within the City of Glasgow in the 1950s were only slightly lower than in Glasgow itself. So the additional risk of lung cancer from either passive smoking or atmospheric pollution does not account for the West of Scotland excess which continues to be observed compared to other Scottish cities.

Serum cholesterol readings from those apparently healthy individuals measured at least 4 years prior to the diagnosis of lung cancer or any other cancer show that high serum cholesterol levels were associated with low rates of lung cancer, contrary to many published findings.

This and the surprising nature of the dose-response

relationship allow speculation about the existence of a genetic component in the aetiology.

An epidemiological study has been carried out of knowledge and opinion in Glasgow, Manchester and Leeds about symptoms and signs that may mean cancer. While knowledge improved with increased inputs of education, education itself appeared less important than other variables (age, sex, family experience of cancer, social class) in determining knowledge.

Education on lung cancer prevention in schools

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Probably the least effective way to prevent lung cancer is to teach about lung cancer prevention. When the link between lung cancer and smoking became clear, it was generally assumed that if people were familiarised with this association they would not smoke.

In a study by the author in 1979, children who smoked were significantly more likely than nonsmokers, to state that smoking can cause lung cancer. Bewley and her colleagues showed that although children could name diseases associated with smoking they did not understand the meaning. Diseases which might strike at the age of 40 or over are much too distant to have any meaning for children. Some children enjoy the added excitement of risk. Others are made very anxious if their parents smoke and lectures about health risks can be very boring.

It is nevertheless imperative that something should be done to prevent children from smoking, as Doll and Peto have shown that the risk of lung cancer increases the earlier smoking is started.

Regular two-yearly surveys carried out by the OPCS now show the prevalence of smoking among children. Nearly 30% of young people are regular smokers at school-leaving age. The prevalence is higher among the less academically inclined. A large CRC-funded study showed that among 16 to 18-year-olds at vocational colleges the prevalence of regular smoking was 31% whilst in the same age group in the sixth forms it was 12%. The same survey showed that children whose parents smoke are nearly twice as likely to be smokers; whilst parents' approval is associated with a seven times increased rate. Only 2% of children would smoke if they thought their best friend was not in agreement.

Young smokers are likely to attend more discos more often than the nonsmokers; to attend gigs more often; to drink alcohol more often. Young smokers are already more likely than nonsmokers to express positive views about smoking e.g. that it calms the nerves, keeps the weight down, gives confidence. Perhaps this is related to advertisement-awareness because smokers were significantly more likely than nonsmokers to have a favourite cigarette advertisement.

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